



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,955	11/27/2000	Evan L. Goldstein	1999-0797	5026

7590 12/18/2003
S H Dworetsky
AT&T Corp
P O Box 4110
Middletown, NJ 07748

EXAMINER

NGO, HUNG NHAT

ART UNIT	PAPER NUMBER
----------	--------------

2633

DATE MAILED: 12/18/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,955

Applicant(s)

GOLDSTEIN ET AL.

Examiner

Hung N Ngo

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9, 11-18, 20-24, 26-29 and 31-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9, 11-18, 20-24, 26-29 and 31-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2633

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 2-7, 11-18, 20-24, 26-29 and 31-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Gloeckner et al (6,445,841).

Gloeckner et al discloses receiving an input signal having at least two input channels (1724, Fig. 17), receiving an add signal having at least one add channel (1730, Fig. 17); transmitting the input channels and the add channels through an optical switch Matrix (1710, Fig. 17), the optical switch matrix having one or more optical switches (MEM matrix switches; lines 60 of column 6 to line 35 of column 7) that are capable of redirecting the input channels and add channels as they pass through the optical switch matrix (Fig. 17); outputting an output signal by configuring the one or more optical switches of the optical switch matrix so that at least one of the input channels is replaced by the at least one add channel (Fig. 17); and demultiplexing an input optical signal to provide input channel signals to the one or more optical switches (1731a, Fig. 17). Each channel of the input signal has specific wavelengths (lines 10-15 of column 14). The input signal is a wavelength division-multiplexed optical signal (lines 20-25 of column 14). : multiplexing signals on the channels to produce a multiplexed output optical signal (lines 20-25 of column 14). The optical switch matrix is a microelectrical mechanical system having an array of micromirrors arranged on a substrate (lines 40-60 of column 6; Figs. 1A-6C). The micromirrors are capable of being in one of an active state for redirecting light passing in close proximity to the switch, and an inactive state in which light passing in close proximity to the switch is not redirected (see column 6 to column 8).

Regarding claim 20, Gloeckner et al discloses a device for adding data (1731B), a plurality of channel paths, one or more of the plurality of channels being directed to one or more optical switches (MEM matrix switches, Fig. 17); one or more light sources (Gloeckner et al apparatus inherently comprises light sources) providing one or more additional signals at the one or more optical switches;

Art Unit: 2633

a controller that configures the one or more optical switches so as to selective add each one of the one or more additional signals to one of the plurality of channels of the optical signal (Fig. 18; line 60 of column 6 to line 35 column 7); and a selector that selects, for each one of the one or more additional signals, the optical switch for adding the one or more additional signals (Fig. 18; line 60 of column 6 to line 35 of column 7).

Regarding claim 31, Gloeckner et al discloses an optical switch matrix (1710) having one or more optical switches that are capable of redirecting optical channels passing therethrough; an input port (1724) coupled to the optical switch matrix that receives at least one channel from an optical medium and transmits the at least one channel to the optical switch matrix; an output port (1726) coupled to the optical switch network that receives at least one output channel from the optical switch matrix and transmits the at least one output to channel to the optical transmission medium; an add port coupled (1730) to the optical switch matrix that inputs add channels to the optical switch matrix; and a drop port (1728) coupled to the optical switch matrix that receives dropped channels from the optical switch matrix. The switches of the optical switch matrix can be selectively configured so that at least one of the input channels is directed to the drop port and at least one add channel is directed to the output port and wherein the optical switch matrix includes a first array of switches and a second array of switches (Figs. 17 and 18).

Regarding claim 32, The first array of switches and the second array of switches are an $N \times M$ array of switches, and the input port and the drop port are coupled to the first array of switches, while the add port and the output port are coupled to the second array of switches (Figs. 17 and 18).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

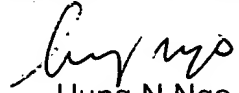
5. Claims 8, 9 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gloeckner et al (6,445,841). It is well known in the art to use bubble switches in a matrix switch for directing optical signals, and since applicant fails to disclose the advantages of bubble switches. It would be obvious to design choice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung N Ngo whose telephone number is (703) 308-0297. The examiner can normally be reached on M-F (8:30-5:00).

Art Unit: 2633

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Hung N Ngo
Primary Examiner
Art Unit 2633

hn